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(according to (EC) 1907/2006)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier COTIN® 280

1.2. Relevant identified uses of the substance or mixture and uses advised against

Catalyst for urethane systems

1.3. Details of the supplier of the safety data sheet

Manufacturer Information: Vertellus LLC
201 North Illinois Street, Suite 1800,
Indianapolis, IN 46204

Non-Emergency Phone Number: 336-292-1781

Non-Emergency Fax Number: 336-854-4058

E-Mail Address: msds@vertellus.com

1.4. Emergency telephone number

Vertellus: 336-292-1781
CHEMTREC (USA): (800) 424-9300
(collect calls accepted); (Int'l): (703) 527-3887
(collect calls accepted; 011 prefix not needed)

SECTION 2: Hazards identification

HMIS Rating

HEALTH	2
FLAMMABILITY	1
REACTIVITY	1

2.1. Classification of the substance or mixture

(According to Regulation (EC) No 1272/2008)

Environmental Chronic Category 2
Specific Target Organ Systemic Toxicity Repeated Exposure Category 2
Acute Toxicity Oral Category 4

Signal Word:
Warning

Hazard Precautions:
H411 - Toxic to aquatic life with long lasting effects.
H373 - May cause damage to organs through prolonged or repeated exposure.
H302 - Harmful if swallowed.

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2.2. Label elements

Hazard Symbols (Pictogram):

Prevention Precautions:
P273 - Avoid release to the environment.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

First Aid Precautions:
P391 - Collect spillage.
P314 - Get medical advice/attention if you feel unwell.
P330 - Rinse mouth.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Storage Precautions:
Not required.

Disposal Precautions:
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

Single Exposure Target Organs:
Not applicable

Repeated Exposure Target Organs:
Not applicable

(According to Directive 67/548/EEC)

Symbol: Xn, N

Risk Phrases:
R22: Harmful if swallowed.
R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S38: In case of insufficient ventilation, wear suitable respiratory equipment.
S61: Avoid release to the environment. Refer to special instructions/safety data sheet.

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2.3. Other hazards

Signs and Symptoms of Potential Overexposure: Fumes and vapors from this product may cause eye irritation. May cause abdominal cramps, nausea, and diarrhea. May cause irritation of the digestive tract. Contact with skin may cause slight irritation. May be absorbed through the skin in harmful amounts. Direct contact witih eyes may cause mild irritation with redness and swelling of the conjunctiva. Toxic effects on the immune system were observed in repeat oral dose animal studies. Prolonged or repeated skin contact may result in the organic tin being aborbed through the skin in harmful amounts.

Primary Route(s) of Exposure: Inhalation. Ingestion. Eye contact. Skin contact. Skin absorption.

Medical Conditions Aggravated by Exposure: Not available.

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (%)	EINECS / ELINCS	EU Symbol	Risk Phrases
COTIN® 280	Proprietary	100	Proprietary	Xn, N	R22- R48/22-R51/53

NOTE: See Section 8 of this MSDS for exposure limit data for these ingredients.
See Section 15 of this MSDS for trade secret information (where applicable).
See Section 16 of this MSDS for the full text of the R-phrases above.

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact: Wash thoroughly after skin contact. The exposed area should be examined by medical personnel if irritation or pain persists after the area has been washed. May cause skin irritation. Remove contaminated clothing and continue flushing with water. Get medical attention if irritation develops or persists.

Eye Contact: Immediately flush the eyes with plenty of water for at least 15 minutes. Call a physician. Can cause mild irritation.

Inhalation: Remove from exposure. If not breathing, give artificial respiration and call a physician. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure. Slightly irritating to the respiratory tract. Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment, use the buddy system. Irritating to the nose, throat, and respiratory tract. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. Immediately transport victim to an emergency care facility

Ingestion: If swallowed, do not induce vomiting. Get prompt medical attention. Have victim rinse mouth thorough with water if alert and capable. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Acute: Fumes and vapors from this product may cause eye irritation. May cause abdominal cramps, nausea, and diarrhea. May cause irritation of the digestive tract. Contact with skin may cause slight irritation. May be absorbed through the skin in harmful amounts. Direct contact witih eyes may cause mild irritation with

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redness and swelling of the conjunctiva. Toxic effects on the immune system were observed in repeat oral dose animal studies. Prolonged or repeated skin contact may result in the organic tin being aborbed through the skin in harmful amounts.

Delayed Effects: Please refer to Section 2, Signs and Symptoms of Potential Overexposure, for potential delayed effects.

4.3. Indication of any immediate medical attention and special treatment needed

Thermal Exposure: Not applicable.

Note to Physician: No additional first aid information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media: Carbon dioxide Alcohol foam Water spray Foam

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion: None Known

Potential for Dust Explosion: not available

Special Flammability Hazards: Not applicable.

5.3. Advice for firefighters

Basic Fire Fighting Guidance: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Flammability Classification (OSHA): Not applicable.

NFPA Rating

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures: Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Special Instructions: Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions

Prevent releases to soils, drains, sewers, and waterways.

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6.3. Methods and material for containment and cleaning up

Containment Techniques and Clean-up Procedures: Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Remove all ignition sources. Ventilate the area of spill or leak. Wear protective equipment during clean-up. For small spills, use suitable absorbent material and collect for later disposal. For large spills, the area may require diking to contain the spill. Material can then be collected (eg., suction) for later disposal. Do not allow the spilled product to enter public drainage system or open waterways. Dispose of the material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Avoid generation of dust clouds during clean-up. LARGE SPILLS: Shut off leak if safe to do so.

Special Reporting Requirements: Not applicable.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards: Not applicable.

Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material.

Special Handling Equipment: Use with adequate ventilation.
Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations: This product should be stored at ambient temperature in a dry, well-ventilated location. Keep container closed when not in use. Store in a cool dry place

Dangerous Incompatibility Reactions: Strong oxidizing agents

Incompatibilities with Materials of Construction: none known

7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits (United States): **OSHA PEL:** Tin 0.1 **ACGIH TLV:** Skin Tin; 0.1
STEL: Tin 0.2

Exposure Limits (UK): 8 hr. TWA: 0.1 mg/m3 skin (as tin)
STEL: 0.2 mg/m3 skin (as tin)

Exposure Limits (other): 8 hr. TWA: 0.1 mg/m3 skin (as tin)
STEL: 0.2 mg/m3 skin (as tin)

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8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Personal Protective Equipment:	Wear impervious gloves (i.e., latex rubber), boots, work uniform and safety glasses Impermeable gloves and safety goggles should be worn at all times
Respirator Caution:	Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.
Ventilation:	All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided. Use process enclosures to control the level of dust in the air.
Other Engineering Controls:	All appropriate engineering controls should be used to minimize exposure potential. Use exhaust ventilation to keep airborne concentrations below exposure limits.
Thermal Hazards:	Not applicable.
Additive or Synergistic Effects:	None known.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance, State & Odor (ambient temperature):	Liquid Clear Yellow		
Molecular Formula:	Not available.	**Molecular Weight:**	Proprietary
Vapor Pressure:	< 0.75 mm Hg @ 20°C	**Evaporation Rate:**	Not available.
Specific Gravity or Density:	1.14	**Vapor Density (air = 1):**	> 1
Boiling Point:	Not available.	**Freezing / Melting Point:**	- 6 °C 21 °F
Solubility in Water:	Insoluble	**Octanol / Water Coefficient:**	Not available.
pH:	Not available.	**Odor Threshold:**	Not available.
Viscosity:	Not available.	**Autoignition Temperature:**	479 C 894 F
Flash Point and Method:	307°F (153°C) (COC)	**Flammable Limits:**	Not available. (LEL) – Not available. (UEL)

9.2. Other information

Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity	Not classified as dangerously reactive.
10.2. Chemical stability	Stable under normal conditions.
10.3. Possibility of hazardous reactions	Not expected to occur.
10.4. Conditions to avoid	No data.

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10.5. Incompatible materials Strong oxidizing agents

10.6. Hazardous decomposition products Hydrogen chloride Nitrogen containing gases carbon monoxide

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD_{50}: Oral LD50 (rat) 894 mg/kg

Acute Dermal LD_{50}: Dermal LD50 (rat) > 2000 mg/kg

Acute Inhalation LC_{50}: Not available.

Skin Irritation: No data available.

Skin Sensitization: Not available.

Eye Irritation: No data available.

Target Organs: Not applicable

Carcinogenicity: No data available.

Teratogenicity: Not available.

Reproduction: Not available.

Neurotoxicity: No data available.

Mutagenicity: No data available.

SECTION 12: Ecological information

12.1. Toxicity Not available.

12.2. Persistence and degradability No data No data available.

12.3. Bioaccumulative potential No data

12.4. Mobility in soil No data

12.5. Results of PBT and vPvB assessment Not available.

12.6. Other adverse effects No data available. Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

US EPA Waste Number: Not applicable

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Waste Disposal: Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

14.1. UN number UN3082

14.2. UN proper shipping name Environmentally Hazardous Substance, Liquid, N.O.S. (Organotin Compound)

14.3. Transport hazard class(es) 9

14.4. Packing group PG III

14.5. Environmental hazards Marine Pollutant (Organotin compound, liquid)

14.6. Special precautions for user Not available.

NA Emergency Guidebook Numbers: 171 **IMDG EMS:** S-A F-A

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

OSHA Hazards: **Health:** Irritant. **Physical:** Not applicable.

WHMIS Classification: Class D, Division 2, Subdivision A: Very Toxic Material

Chemical Inventory Lists:	Status
TSCA:	Present
EINECS:	Present
Canada(DSL/NDSL):	DSL
Japan:	Not listed.
Korea:	Present
Australia:	Present
New Zealand:	Present
China:	Present
Philippines:	Present
Switzerland:	Not listed.

New Zealand GHS Classification: Not classified by this country.

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Japan GHS Classification:	Not classified by this country.
Korea (MOL) GHS Classification:	Not classified by this country.
Australia GHS Classification:	Not classified by this country.
Taiwan GHS Classification:	Not classified by this country.
Indonesia GHS Classification:	Not classified by this country.
SARA 313:	Acute Chronic
New Jersey Trade Secret Information:	54004100000-6043P

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

Full text of R phrases in Section 3:

R22: Harmful if swallowed.
R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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Legend of abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.
CAS = Chemical Abstracts Service.
CERCLA = Comprehensive Environmental, Response, Compensation and Liability Act (1990).
CFR = Code of Federal Regulations.
DSL/NDSL = Domestic Substances List/Non-Domestic Substances List.
EC = European Community.
EEC = European Economic Community.
EINECS = European Inventory of Existing Commercial chemical Substances.
ELINCS = European List of Notified Chemical Substances.
EU = European Union.
GHS = Globally Harmonized System.
LC = Lethal concentration.
LD = Lethal dose.
MOL = Ministry of Labor.
NEMA = National Emergency Management Agency.
NFPA = National Fire Protection Association.
NIOSH = National Institute of Occupational Safety and Health.
NTP = National Toxicological Program.
OSHA = Occupational Safely and Health Administration
PEL = Permissible exposure limit.
RQ = Reportable quantity.
SARA = Superfund Amendments and Reauthorization Act of 1986.
TLV = Threshold limit value.
WHMIS = Workplace Hazardous Materials Information System.

Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

Revision Date: Mar 08, 2011 **Original Date of Issue:** Not known or provided.

Issued By: Regulatory Management Department

Revision Details: Corrected toxicological data in section 11.1 and revised classification in section 2.1.